## BOOK REVIEWS

*The Number Concept, its Origin and Development.   By Levi L. Conant, Ph. D. New York, Macmillan & Co., 1896.   218 pp., 12°, $2.00.*

The title of this work might lead the reader to suppose that it is principally mathematical, but the treatment adopted by the author is anthropological.  It is a study of the evolution of the idea of number in primitive conditions and the survivals of early forms in later stages of culture.

Beginning with the methods of counting which prevail in savage tribes and, by way of comparison, among children, the author passes to the limits of numeral systems.   In the former he finds the fingers to be the usual natural tallies.   With regard to limits, the widest variation occurs.   The author judiciously observes : " The high limit to which some savage races carry their numeration is far more worthy of remark than the entire absence of the number sense exhibited by others of apparently equal intelligence."

Two chapters are occupied with the origin of number words. While he does not concede that all numeral words are derived from digital sources, " that all above 2, 3, or at most 4, are almost universally of digital origin we must admit."   This seems too positive a statement, especially as the author does not appear to have considered the origin of the derivation of the Indo-Germanic and Semitic numerals.   He says of the former, " all traces of their origin seem to have been lost."   This is not the opinion of such Aryan students as Lepsius, Scherer, and Rumpelt, and the interesting identification of *one* and *two* with *I* and *thou* deserved at least a mention.   On page 99 he offers a list of the meanings of the lower number-words, assigning " the probable meaning of any one of the units."   It is suggestive, but does not contain either the origins from the personal pronouns or from adverbs of place (*here, there*), which are almost certainly at the root of some of the terms for the first and second units.

The chapter on " miscellaneous number bases " discusses the binary, ternary, senary, octonary, and duodecimal scales.   He refuses to believe that the octonary is to be regarded as, in the Aryan race, the predecessor of the decimal base.   He is inclined to favor the duodecimal scale.   " It is the scale of civilization, just as the quinary, decimal, and vigesimal scales are the scales

of nature." He quotes only one, and that a doubtful instance of the duodecimal scale, among savage tribes. On page 207 he makes the observation : " It must not be forgotten that no races save those using the base of 10 have ever attained any great degree of civilization, except the ancient Aztecs and their neighbors ;" yet the Babylonian sexagesimal base, 60, to which he occasionally alludes, is considered by most students to have been duodecimal—that is, 5 x 12, not 6 x 10—and such was the civilization of the Babylonians of nine thousand years ago that our methods of dividing time and space, our religion and our laws, we owe in large part to them. The book closes with special chapters on the quinary and vigesimal systems.

Professor Conant's pages testify everywhere to the methods of a conscientious, unbiased, and accurate student. He has limited his investigations to the cardinal numbers only. In some future edition we hope he will include the remaining numeral series, the ordinals, iteratives, multiplicatives, partitives, distributives, and specificatives, as they have been classified by grammarians. The origin of sacred number series is also worthy his attention.

<div align="right">D. G. BRINTON.</div>

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*John Eliot's First Indian Teacher and Interpreter. Cockenoe-de-Long Island and the Story of his Career from the Early Records. By William Wallace Tooker. New York, Francis P. Harper, 1896. 60 pp., 2 pl., 8°. $2.00.*

Cockenoe-de-Long Island is the queer-sounding polyglot name of a Long Island Indian who was captured while fighting with the Pequots against the British colonists. According to his biographer, William Wallace Tooker, of Sag Harbor, Cockenoe was so called from the Massachusetts Indian verb *kukkinneau*, " he interprets." Cockenoe became prominent through the fact that the missionary John Eliot, who in 1646 began to deliver sermons in the Indian vernacular, made his acquaintance about that time ; he then acted as the famous apostle's first Indian teacher and interpreter. The last mention we find of him is in a Montauk deed of conveyance to the inhabitants of East Hampton, Long Island, dated August 3, 1687.

The little volume is of such interest to the ethnologist and historian that it seems a pity the edition of the work is limited to 215 copies. It is a beautiful specimen of book-making.

<div align="right">A. S. GATSCHET.</div>